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ABRAMZON, L.S.; YEDIGAROV, S.G.

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YEDIGAROV, S.G.

Basic problems in the technical development of the transportion and storage of patroleum and petroleum products. Transp. 1 khran. nefti no. 3:3-6 '63. (MIRA 17:7)

1. Gosudarstvennyy komitet po toplivnoy promyshlennosti pri Gosplane SSSR.

ABRAMZON, L.S.; TEDIGAROY, S.G.

Filling a cold empty pipeline with hot fluid. Travep. i khran.

(MIRA 17:3)

nefti no.7:6-9 '63.

l. Nauchno-issledovatal'skiy institut po transportu i khraneniyu

nefti i nefteproduktev.

YEDIGAROV, S.G.; RASHCHEPKIN, K.Ye.; MAYSKIY, A.A.

Mechanization of excavation in the major repair of pipelines. Transp. i khran. nefti no.10:3-5 163. (MIRA 17:9)

1. Nauchno-issledovatel'skiy institut po transportu i khraneniyu nefti i nefteproduktov.

YEDIGAROV, S.G.; VOLOKH, I.B.; RASHCHEPKIN, K.Ye.; MAYSKIY, A.A.; VALEYEV, E.Kh.; LOGVINOV, G.I.; ISMAGILOVA, F.Kh.

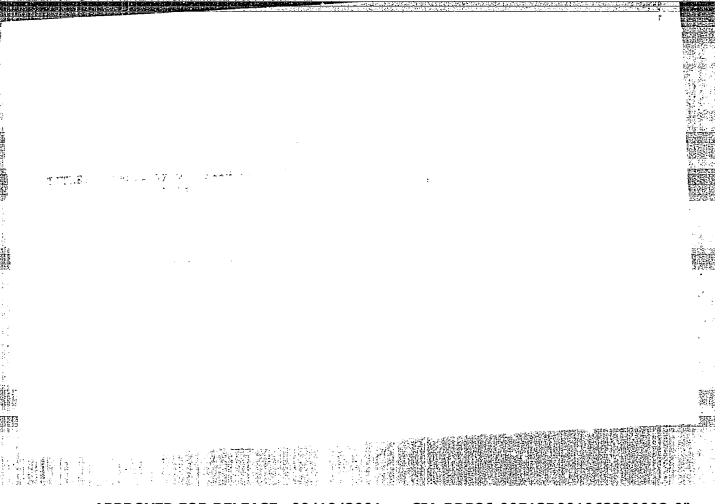
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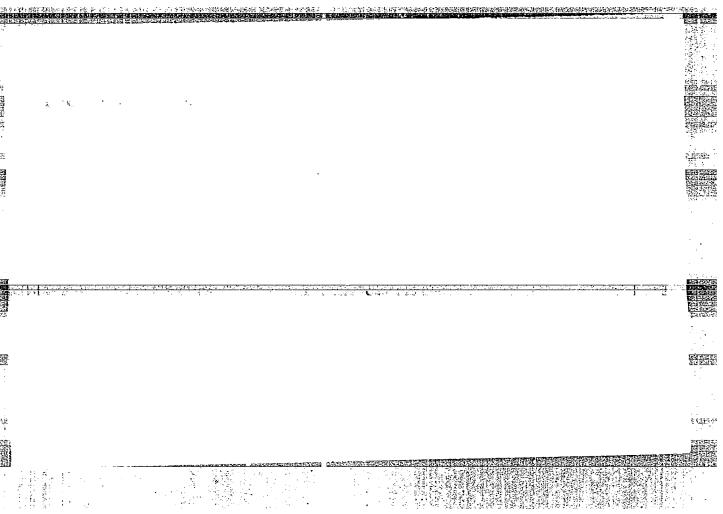
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OVCHINNTROV, I.S.

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Neft. khoz. 40 no.4:60-65 Ap '62. (NIRA 15:5)
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(Packaging machinery)

MIKHAYLOV, I.M., inzhener; YEDIGAROV, S.S., inzhener; YEBER, P.F., redaktor; YRIDKIN, A.M., tekhnicheskiy redaktor

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YEDIGAROVA, N. N.

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In-ta Pochvovedeniva i Agrokhimii AN AzSSR, No 6, 1953, pp 121-126

Oil shale contains a great deal of organic matter and more nitrogen than manure and four times as much phosphorus. Its effectiveness in increasing productivity has been demonstrated. Experiments have shown that during composting of the shale in the seriozem (gray desert soil) the volume of organic matter does not decrease. The water-soluble phosphorus decreases slightly but nitrogen, humic acid, and fulvic acid increase slightly. It has been demonstrated that oil shale can be used as a source of organic substances, phosphorus, and nitrogen in fertilizing soils. (RZhBiol, No 2, 1955)

SO: Sum. No. 639, 2 Sep 55

YEDIGAROVA, N.N.

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(MLRA 9:12)

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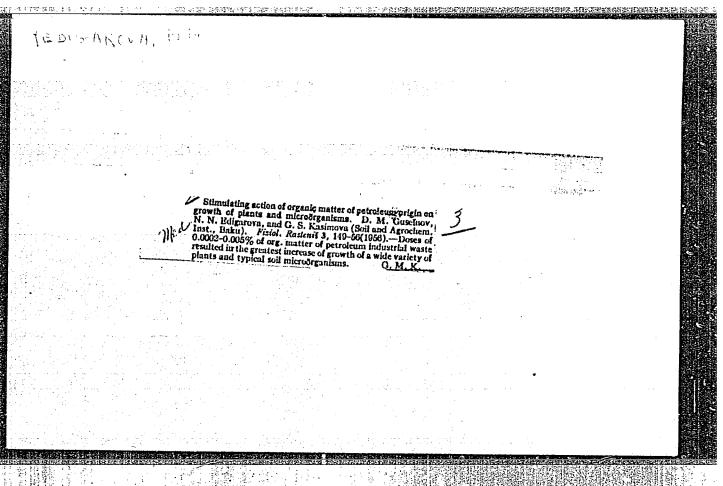
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YEDIGAROVA, N.N.

YEDIGAROVA H.N.

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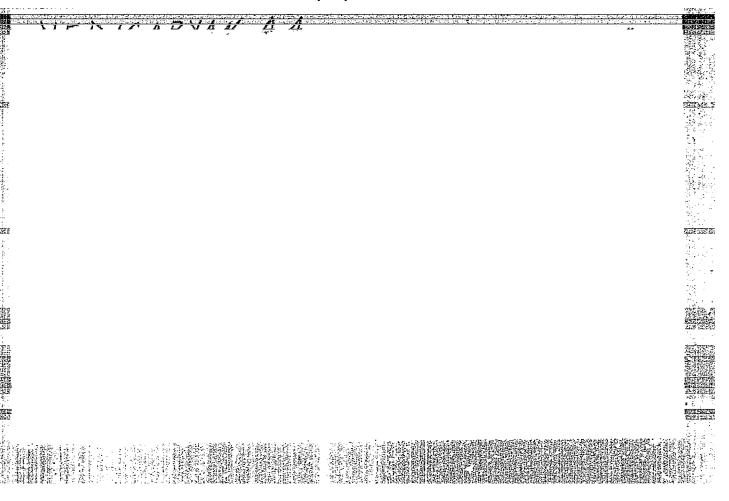
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1. Kiyevskiy politekhnicheskiy institut, kafedra tekhnologii elektrokhimicheskikh proizvodstv. (Solution (Chemistry)) (Thermodynamics)





Agreehematy po elektrodicial. Ath, Moscow, 1956. Figure 11 Board A. W. Trankin Children of the Pourth Conference on Right. 1959. Seldy Strank and Liver and Liver and Stranger Conference on Right. 1959. Seldy Strank and Liver and Responding the Pourth Conference on Right. 1959. Seldy Strank and Liver and Responding the Pourth Conference on Right. 1959. Seldy Strank and Liver and Responding the Pourth Conference on Right. 1959. Seldy Strank and Liver and Responding the Pourth Conference on Right. 1959. Seldy Strank and Liver and Responding the Pourth Conference on Right. 1959. THREADS THE BOOK in Intended for cheated and stearchers Professory and Liver Englands. 1959. FURNOSE THE BOOK CONTRINS THE SELDY AND STRANGE THE STRANGE THE BOOK CONTRINS THE SELDY AND STRANGE THE BOOK CONTRINS THE TRANGE THE BOOK CONTRINS THE BOOK CONTRINS THE STRANGE THE BOOK CONTRINS TH

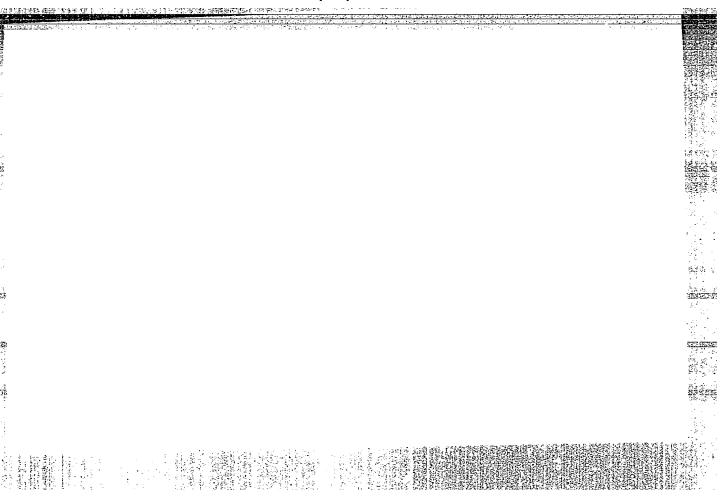
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Method of a formal description of a language (based on material for a mathematical text). NTI no.12:44-45 '63. (MIRA 17:6)

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MAILYAN, A.N. (Yerevan); MEHITARYAN, S.C. (Yerevan); PAPYAN, B.K.
(Yerevan); POGOSOVA, S.S. (Yerevan); FEL'DMAN, Ye.D. (Yerevan)

Algorithm for Armenian-to-Russian machine translating. Part 3;
Grammatical rules and their application. Probl. kib. no.14;
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YEDIGARYAN, F.S., inzh.

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KOSTETSKIY, B.I., prof.; YEDIGARYAN, F.S., inzh.; NATANSON, M.E., inzh.

Changes in chemical composition of very fine layers of friction surfaces of antifriction bearings luring their operation. Izv.vys.ucheb.zav.; mashinostr. no.5:52-54 164. (NIRA 18:1)

1. Kiyevskiy institut Grazhdanskogo vozdushnogo flota.

KOSTETSKIY, B.I., doktor tekhn. nauk, prof.; YEDIGARYAN, F.S., inzh.

Wear of antifriction bearings in gas media of various activity.

Vest. mashinostr. 44 no.8:17-18 Ag '64.

(MIRA 17:9)

TITLE: Wear of ball bearings in gaseous media of various activity

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YEDIGARYAN, O. K.

Cand Agr Sci - (diss) "Appearance of better components of grass mixtures in garden beet crop rotations and their treatment." Yerevan, 1960. 26 pp; (Committee of the Council of Ministers Armenian SSR for Higher and Secondary Specialist Education); 150 copies; price not given; (KL, 5-61 sup, 197)

ANAN'YAN, A.K., doktor tekhn. nauk, prof.; BEK-MARMARCHEV, B.I., kand. geogr. nauk; ZHAMAGORTSYAN, V.N., kand. tekhn. nauk; CHITCHYAN, A.I., kand. sel'khoz. nauk; YEDIGARYAN, Z.P., mlad. nauchnyy sotr.; SATIAN, M.A., kand. geol.-mineral. nauk; PAYRAZYAN, V.V., mladshiy nauchnyy sotr.; VEBER, V.V., prof.; NAZARYAN, A.G., kand. tekhn. nauk; POKHSRARYAN, M.S., mladshiy nauchnyy sotr.; TER-ASTVATSATRYAN, M.I., mladshiy nauchnyy sotr.; VELIKANOV, M.A.; VELIKANOV, M.A., otv. red.; SHTIBEN, R.A., red. izd-va; KAPLANYAN, M.A., tekhn. red.

[Results of complex research on the Sevan problem] Rezul'taty kompleksnykh issledovanii po Sevanskoi probleme. Erevan, Izd-vo AN Armianskoi SSR. Vol.2. [Channel processes] Ruslovye protsessy. 1962. 255 p. (MIRA 15:7)

1. Akademiya nauk Armyanskoy SSR, Yerivan. Institut vodnykh problem. 2. Chlen-korrespondent Akademii nauk SSSR (for Velikanov).

(Sevan Lake region-Hydrology)

YEDIGARYAN, Z.P.

Lithology of Upper Triassic sediments in the northern slope of the Western Caucasus. Izv. AN Arm.SSR.Geol.i geog.nauki 15 no.1:47-65 '62. (MIRA 15:3)

1. Institut geologicheskikh nauk AN Armyanskoy SSR. (Caucasus-Rocks, Sedimentary)

YEDIGARYANIS, G. G.

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[Electric installation and repair work] Elektromontashnye i elektroremontnye raboty. Moskva. Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1959. 386 p. (MIRA 13:6)

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(Electric engineering)

YEDINAK, A.N. (Chernovtsy, ul. Kotlyarevskogo, d.6, kv.17)

Pin guide. Ortop., travm. i protez. 24 no.11:70-71 N '63.

(MIRA 17:10)

1. Iz kafedry gospital'noy khirurgii (zav. - prof. V.L. Kherkin)
Chernovitskogo meditsinskogo instituta (rektor - prof. M.M. Kovalev).

YEDINAK, A.N. (Chernovtsy, ul. Kotlyarevskogo, d.6/17)

Skeletal traction clamps. Ortop., travm. i protsz. 25 no.6:
50-52 Je 164. (MRA 18:3)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. V.L. Khenkin) Chernovitskogo meditsinskogo instituta (rektor - dotsent A.D. Yukhimets).

SOV/177-58-1-13/25 17(13)

Yedinevskiy, V.G., Colonel of the Medical Corps AUTHOR:

The Problem of the Evaluation of the Causal Relation-ship of Sold; Tilnesses (Mutilations) (K vopro-TITLE: unoy svyazi zabolevaniy (uvechiy) su eksperti

voyennosluzhasnchikh)

Voyenno-meditsinskiy zhurnal, 1958, Nr 1, pp 52 - 56 PERIODICAL:

(USSR)

ABSTRACT:

The existing VTEK (Military Medical Expert Commission) medical examination formulates the causal relationship of diseases, as follows: does the disease result from the soldier's presence at the front or not; has the disease developed during military service? Has the disease no relationship to the Soviet Army?

Above all, psychopathic cases have to be treated

By examples and case histories the author carefully. Card 1/2

SOV/177-58-1-13/25

The Problem of the Evaluation of the Causal Relationship of Soldiers' Illnesses

points out that the expert's evidence about the causal relationship of diseases has to be treated on an individual basis. The expert's evidence is also decisive for classifying the state pension.

Card 2/2

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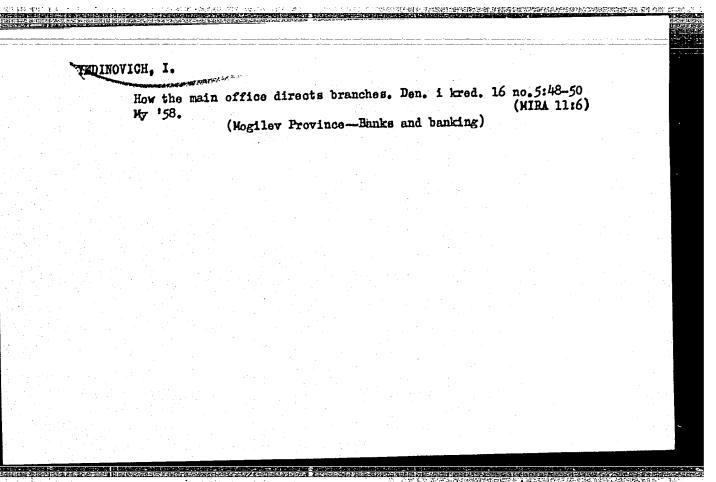
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YEDINEVSKIY, V.G., polkovnik meditsinskoy sluzhby

Control of therapeutic and prophylactic work in medical institutions.

Voen.-med.zhur. no.9:47-49 S '61.
(MEDICINE, MILITARY)

Credit and development of the ecoromy of the Lithuanian S.S.R. Den,i kred. 15 no.9:12-19 S '57. (LithuaniaCredit)	YED INO	VICH, I.
	ge samet Space (1994)	



YEDINOVICH, I.

State Bank credit and the economy of Soviet Kirghizistan.
Den. i kred. 20 no.11:20-23 N 62. (MIRA 16:1)

1. Upravlyayushchiy Kirgizskoy respublikanskoy kontoroy Gosbanka.

(Kirghizistan—Credit)

YEDINYY, YU. G.

Yedinyy, Yu. G.

"Ectopis of the Apertures of the Urinary Tract in Women." Kiev Order of Labor Red Banner Medical Inst imeni Academician A. A. Bogomolets. Urological Clinic. Kiev, 1954. (Dissertation for the Degree of Candidate in Medical Science)

So: Knizhnaya letopis', No. 27, 2 July 1955

TEDINYY. Yu.G., kand.med.nauk, GOYKHEERG, M.I. (Kiyev)

Report on the activities of the Kiev Urological Society in 1957.

Urologiia 23 no.4:75-76 J1-Ag | 58 (MIRA 11:8)

(KIEV--UROLOGY--SOCIETIES)

YEDINYY, Yu.G., kand. med. nauk.

Use of ultrasonics in the treatment of urinary calculi; review of theliterature. Urologiia 24 no.1:64-66 Ja-F '59. (MIRA 12:1)

 Iz urologicheskogo otdeleniya bol'nitsy imeni Oktyabr'skoy revolyutsii (Kiyev) i urologicheskoy kliniki (zab. - zasluzhemnyy deyatel' nayki prof. A.A. Chayka) Kiyevskogo meditsinskogo instituta. (URINARY TRACT, calculi

ther., ultrasonics, review (Rus))
(ULTRASONICS, ther. use
urinary tract calculi, review (Rus))

TORGUSHINA, N.S., kand. med. nauk; YEDITKIN, H.O.

Hemangioendotheliomas of the stomach. Khirurgiia 40 no.8:91-93 Ag '64. (MIRA 18:3)

1. Kafedra patologicheskoy anatomii (zav. - prof. M.L. Biryukov) Gor'kovskogo meditsinskogo instituta imeni Kircva i khirurgicheskcye otdeleniye (zav. R.O. Yeditkin) Gor'kovskoy oblastnoy bol'nitsy.

YEDKINA, V. D. Cand Med Sci -- (diss) "Changes in gastric secretion after" hemorrhage and subsequent blood transfusions." L'vov, 1959. 20 pp (L'vov State Med Inst), 200 copies (KL, 48-59, 116)

-48-

PETROV, D.G., dotsent; TKACH, Ye. A., starshiy nauchnyy sotrudnik; FEDOROVA, Z.P., starshiy nauchnyy sotrudnik; YEDKINA, V. D., nauchnyy sotrudnik

Loss of blood and blood transfusion in hypothermia. Nov. khir. arkh. no.2:59-63 Mr-Ap 159. (MIRA 12:7)

1. L'vovskiy nauchno-issledovatel'skiy institut perelivaniya krovi i neotlozhnoy khirurgii (nauchnyy rukovoditel (prof. I.I. Fedorov). (Adres avtorov: L8vov, ul. Pushkina, d.45. Nauchno-issledovatel'skiy institut perelivaniya krovi).

(HYPOTHERMIA) (HEMORRHAGE) (BLOOD TRANSFUSION)

PETROV, D.G., dotsent; KRIVORUCHKO, R.A.; TURCHIN, V.L.; YEDKINA, V.D.

Centralized supply of flasks with factory produced blood preservatives. Problegemat.i perelektrovi no.7:50-53 161.

(MIRA 14:9)

1. Iz L'vovskogo nauchno-issledovatel'skogo instituta perelivaniya krovi (dir. - dotsent D.G. Petrov). (HLOOD--COLLECTION AND PRESERVATION)

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Sukhomlinov, B. F., Yedkina, V. D. and Yakovenko, A.N.

AUTHORS:

The electrophoretic pattern of serum and liver pro-

TITLE:

teins after exposure to ionizing radiation

SOURCE:

L'vov. Universytet. Problemna lyaboratoriya radiobio-

lohiyi. Biologicheskoye deystviye radiatsii, no. 1,

The authors investigated by means of electrophoresis the serum protein fractions, and the soluble proteins of dogs exposed berum protein fractions, and the soluble proteins of dogs exposed to radiation. Dogs weighing 8 - 25 kg were exposed to a single dose of x rays ranging from 600 to 1000r from a distance of 1 m, at 14r/min. Blood samples were taken under standard conditions from the saphenous vein. The soluble proteins of the liver were obtained by in vitro perfusion, which yielded a solution containing up to 4% soluble proteins. The electrophoresis was carried out on agar gel, with a field of 4 v/cm and current of 18 - 20 mA, at pH 8.6, on 12 - 15 cm strips. The authors obtained 6 - 8 fractions

Card 1/3

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The electrophoretic pattern ..

from the serum proteins and 10 - 15 fractions from the soluble liver proteins within 3.5 - 4 hours. From the electrophoretic strips of the serum of healthy dogs the authors found 6 - 8 well-separated fractions (albumins, α_1 and α_2 , β_1 , β_2 and β_2 and β_3). In some cases the β_1 fraction could be subdivided into β_1^1 Four days after exposure, marked changes could be observed in the electrophoretic pattern of the serum protein fractions. The proportion of albumin decreased and that of α_2 -globulin increased. These changes were even more marked at the peak of radiation sickness, with an additional increase in the α_3 -fraction. At this time a completely new fraction, the so-called α_i -fraction appeared, which according to the authors is a sign of the impending death of the animal. In those animals which recovered from radiation sickness, the recovery was preceded by the disappearance of this fraction. The β_1 - and β_2 -fractions usually showed an initial decrease followed by an increase. In the authors' opinion, this increase is Card 2/3

The electrophoretic pattern ..

S/858/62/000/001/002/013 D296/D307

connected with an immunological reaction, such as the formation of antibodies against denaturated proteins formed as a consequence of the oxidation of SH-groups. The 10 - 15 fractions, found in the electrophoretic pattern of the soluble liver proteins, could be grouped according to their mobility. Each group corresponded to one of the serum protein fractions. It was found that the changes in these fractions were quite similar to those found in the serum protein fractions but were even more marked. The authors conclude that radiation affects the protein synthesis in the liver. There are 11 figures and 11 tables.

ASSOCIATION:

L'vovskiy nauchno-issledovatel'skiy institut perelivaniya krovi i laboratoriya radiobiologii L'vovskogo universiteta (L'vov Scientific Research Institute of Blood Transfusion and Laboratory of Radiobiology, L'vov University)

Ϋ́

Card 3/3

KARIMOV, Z.N.; SAVCHENKO, S.S.; YEDLICHKA, A.E.

Picture of peripheral blood and its coagulation time in rabbits with a transplanted osteogenic sarcoma. Trudy Inst. kraev. eksper. med. no.5:184-187 '63. (MIRA 17:6)

BALZHI, M.F.; BEREZKIN, P.N.; GOL'DSHTEIN, Ya.Ye.; GAL'FERIN, Ye.B.;

YEDLICHKO, V.V.; KERAS, A.F.; LEKUS, I.D.; POTEKUSHIN, N.V.;

POZDNYSHEV, V.M.; SUBBOTIN, N.A.; SAVINTSEV, R.I.; TAMAPOVSKIY,

V.M.; SHEREMET'YEV, A.D.; BAKSHI, O.A., kand. tekhn. nauk,

retsenzent; BONDIN, Ye.A., inzh., retsenzent; BOYKO, F.I., inzh.,

retsenzent; VASIN, Yu.P., inzh., retsenzent; LAZAREV, A.A., inzh.,

retsenzent; SOROKIN, A.I., inzh., retsenzent; KON'KOV, Arkadiy

Sergeyevich, dots., red.; DUGINA, N.A., tekhn. red.

[Economy of metals in the machinery industry] Ekonomiia metallov v mashinostroenii. [By]M.F.Balzhi i dr. Moskva, Mashgiz, 1962. 235 p. (MIRA 16:2) (Machinery—Design and construction)

(Metals, Substitutes for)

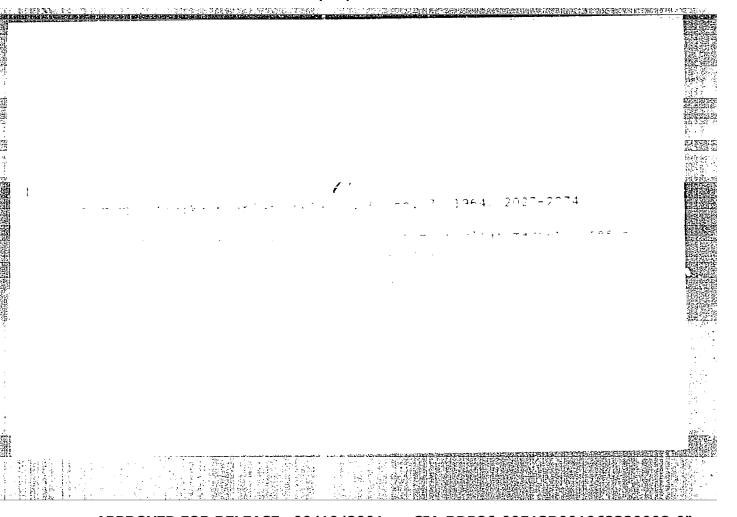
SHUKHTINA, A.M.; YEDLINA, Ye.A.

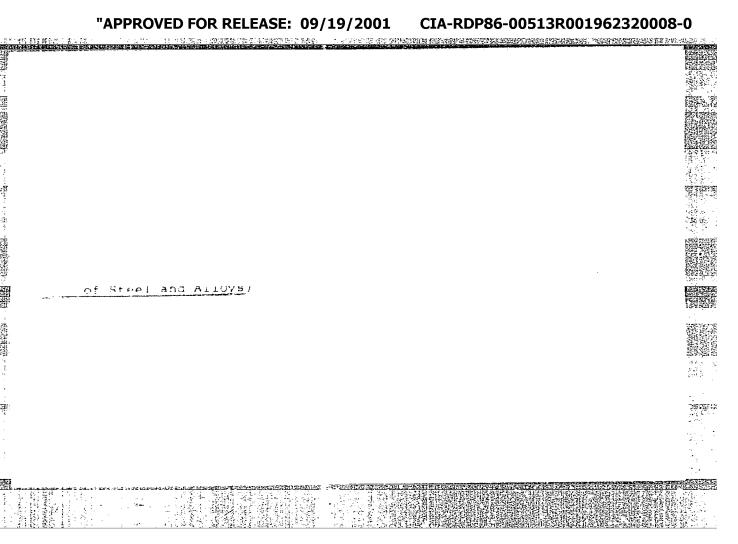
Changes in the fundus oculi in the early stages of hypertension in young persons; from polyclinical data. Sov.med. 24 no.3:55-59 Mr 160. (MIRA 14:3)

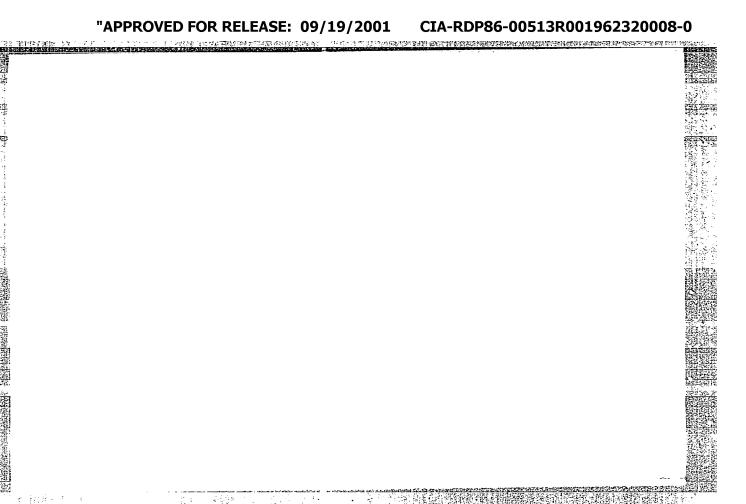
1. Iz fakul tetskoy terapevticheskoy kliniki (zav. - prof. T.S. Istamanova) i polikliniki I Leningradskogo meditsinskogo instituta imeni I.P.Pavlova (glavnyy vrach - kand.med.nauk A.M.Shukhtina. (HYPERTENSION) (EYE._DISEASES)

YEDLINSKIY, Z. (Pol'skaya Narodnaya Respublika); FILIPSKA, M. (Pol'skaya Narodnaya Respublika)

Polarographic method for the simultaneous determination of divalent and tetravalent lead in minium. Lakokras. mat. i ikh prim. no.6:52-55 '61. (MIRA 15:3) (Lead) (Polarography)



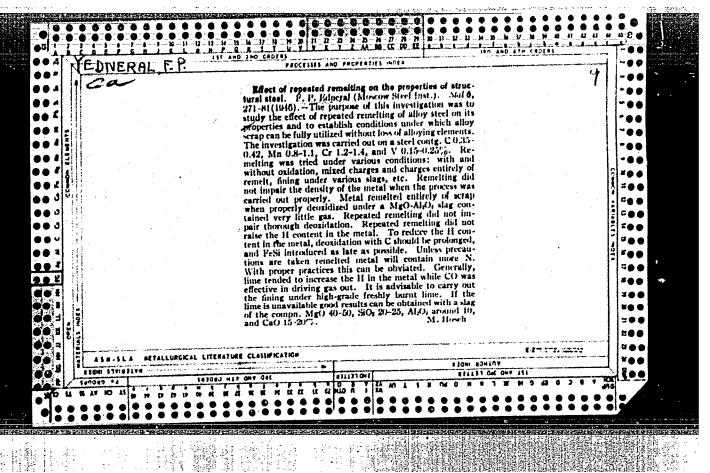




PAVLOVSKAYA, V.S.; YEDNERAL, A.F.

Use of the nuclear magnetic resonance method in studying inhomogeneous solid solutions of Al - Ag. Fiz. tver. tela 6 no.7:2072-2074 J1 164. (MIRA 17:10)

1. Moskovskiy institut stali i splavov.



YEDNERAL, F. F.

Samarin, A. M. and Yedneral, F. P., "Eliminating Nitrogen in the Process of Smelting in an Electric Arc Furnace." Symposium, "Properties of Steel," Metallurgizdat, 1949.

21777 SAMARIN, A. M.; 1 YEDNERAL, F. P.

Udaleniye azota v protsesse plavki v dugovoy olektricheskoy pechi. Sbornik (Mosk. in - t stali im. Stalina), 28, 1949, s. 46-61. Bibliogr: 14, NAZV.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949

EDNERAL, F.P. PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 105 - I BOOK Call No.: TN685.33 Author: EDNERAL, F. P. Full Title: ELECTROMETALLURGY (General Course) Transliterated Title: Elektrometallurgiya (Obshchiy kurs) Publishing Data Originating Agency: None Publishing House: State Publishing House of Scientific and Technical Literature on Ferrous and Non-ferrous Metallurgy Date: 1950 No. pp.: 552 No. of copies: 7,000 Editorial Staff Editor: None Tech. Ed.: Mikhaylov, V. V. Editor-in-Chief and Others: The author Appraiser: None expresses thanks for helpful advice to: Corresponding Member of the Academy of Sciences, A. M. Samarin; Prof. Dr. V. P. Elyutin; Prof. Dr. P. Ya. Ageev; Prof. Dr. N. B. Okorokov; Assistant Prof. Bach. In Tech. Sci. N. M. Chuyko, R. N. Grigorash, A. A. Yaskevich and Engineer Ye. M. Belevitelia. Engineer Ya. M. Bokshitskiy.

1/2

EDNERAL, F.P.

Elektrometallurgiya (Obshchiy kurs)

Call No.: TN685.E3

AID 105 - I

Text Data

Coverage:

This textbook describes the equipment of steel smelting - (both arc and induction) and ferrous alloy furnaces, the technology of smelting and casting steel and alloys, and problems of industrial safety and the arrangement of equipment. Much attention is given to the description of the lining of electric furnaces.

Purpose:

Approved as a text by the Ministry of Higher Education for specialists

in metallurgy in higher educational institutions.

Facilities: In the first chapter, plants and electric power installations im-

portant in the historical development of electrometallurgy are

mentioned.

No. of Russian and Slavic References: None

Available: Library of Congress.

2/2

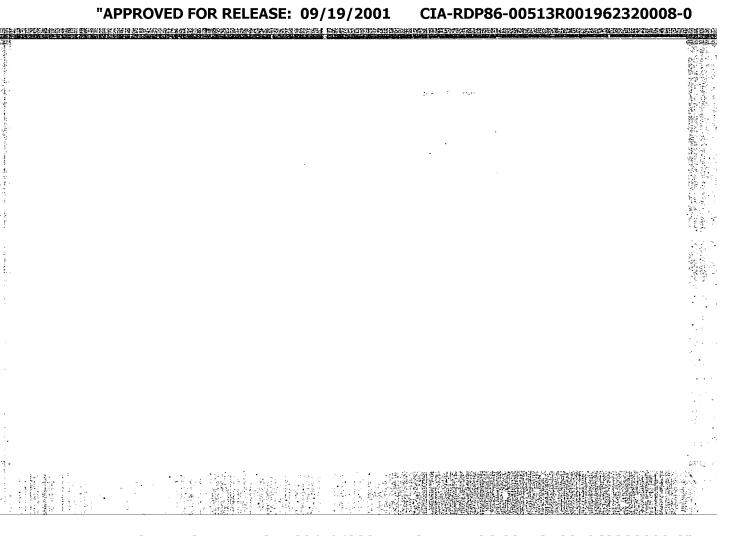
YEDNERAL, F.P., dotsent, kandidat tekhnicheskikh nauk; VISHNYAKOV, A.V., kandidat tekhnicheskikh nauk.

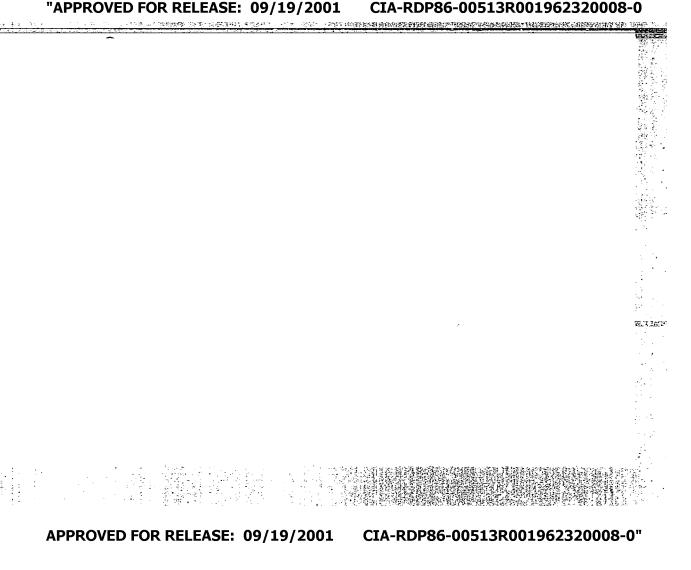
(Thermocouples)

YEDNERAL, Fedor Prokop'yevich; BOKSHITSKIY, Ya.M., redaktor; CHERNYAK, I.G., redaktor; VAYNSHTEYN, Ye.B., tekhnicheskiy redaktor

[Electrometallurgy of steel and ferroalloys; a general course] Elektrometallurgiia stali i ferrosplavov; obshchii kurs. Moskva, Gos.nauchnotekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1955. 510 p.

(Blectrometallurgy) (MLRA 9:1)





YEDNERAL, Fedor Prokop'yevich; FILIPPOV, Anatoliy Fedorovich; ROZENTSVEYG, Ya.D., redaktor izdatel'stva; EVENSON, I.M., tekhnicheskiy redaktor

[Calculations in the electrometallurgy of steel and ferrous alloys]
Raschety po elektrometallurgii stali i ferrosplavov. Moskva, Gos.
nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii,
1956. 188 p. (MLRa 9:12)

(Steel--Electrome tallurgy)
(Iron alloys--Electrometallurgy)

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 59 (USSR)

AUTHOR: Yedneral, F.P.

Effect of Heat Conditions on the Nitrogen Content of Electric TITLE:

Steel (Vliyaniye usloviy plavki na soderzhaniye azota v elektro-

stali)

PERIODICAL: V sb.: Proiz-vo stali. Moscow, Metallurgizdat, 1956, pp 12-22

ABSTRACT: The results of experimental heats made in electric-arc furnaces of 0.1, 0.5, 20, and 40 t capacity are presented. It is established that [N] increases if the slag is produced by lime. Replacement of lime by limestone diminishes [N]. Carburization of the exposed metal under current increases [N]. [N] diminishes during the reducing period in the presence of acid and magnesiasilicon slags. When working with carbide slags, C deoxidation is accompanied by diminution in [N], while Si deoxidation increases it. Addition of Fe-Ti to the metal covered by slag diminishes [N], while addition to the exposed metal is accompanied by a small rise in [N]. Gas blow (Ar, CO₂) over the metal during the period of reduction is a good method for removing F.Ye. nitrogen.

Card 1/1

1. Steel--Nitrogen absorption--Test results 2. Steel--Manufacture --Effects of slags 3. Slags-Effectiveness-Test results furnaces -- Performance -- Test results

YENDERAL, Fedor Prokop'yevich -- awarded sei degree of Doc Tech Sci for the 12 Dec 57 defense of dissertation: "Electrometallurgy of steel and ferro-alloys" (State Publishing House of Metallurgical Literature [Metallurgizdat], 1955) at the Council, Mos Steel Inst imeni Stalin; Prot No 14, \$1 May 58.

(BMVO, 11-58,19)

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 85 (USSR)

AUTHOR:

Yedneral, F.P.

TITLE:

Organization of the Production of Electric Steel by the Duplex Process (Organizatsiya proizvodstva elektrostali dupleks-

protsessom)

PERIODICAL:

V sb.: Primeneniye kisloroda v metallurgii. Moscow, Metallurgizdat, 1957, pp 173-175

ABSTRACT:

The shortcomings of duplex (D) production of steel by openhearth and electric furnace and by basic converter without O2 and electric furnace, and of the utilization of large amounts of molten iron in electric furnace charges are set forth. Specifically, the difficulty of synchronizing the work of the furnaces in the first instance, the high [N] in the second, and the short life of the lining in the third are noted. It is pointed out that in D work with a basic converter using O2 and an electric furnace, the semifinished product and the electric steel may both be recovered with low [N], in amounts of 0.005-0.007 and 0.01%, respectively. In this case it is possible to use ordinary steel-making pig in the converter and obtain a semifinished product

Card 1/2

Organization of the Production of Electric Steel by the Duplex Process

with the required [C]. Synchronization of the electric furnaces and the converters is easily accomplished, the output of the electric furnaces is doubled, and the consumption of energy and of electrodes is cut respectively to 300 kwh and 2.5-3.0 kg per ton of steel. This also permits a 40% reduction in required transformer capacity and a reduction in electrode diameter. The fundamental data for the design of a department employing the D and capable of producing 1 mill. t of electric steel per year are adduced.

A.Sh.

1. Steel--Production 2. Furnaces--Operation 3. Furnaces--Effectiveness 4. Furnaces--Equipment

Card 2/2

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 81 (USSR)

AUTHOR:

Yedneral, F.P.

TITLE:

Oxygen Applications in Electric Steel Foundry (Primeneniye

kisloroda pri elektroplavke stali)

PERIODICAL:

V sb.: Primeneniye kisloroda v metallurgii. Moscow,

Metallurgizdat, 1957, pp 285-289

ABSTRACT:

Advantages, procedures, and performance indices of the electrical smelting of stainless, structural, tool, and plain carbon steels with O₂ are described. It is suggested that the furnace be serviced with bulk material consisting 30% of magnesite powder, 45% of ferrous dolomite, and 25% of fine-ground Cr ore. In making stainless steel, the desirability of deoxidizing the slag (after blowing the bath with O₂) by Si-Cr with 50% Cr and 0.02-0.03% C is noted, making it possible to recover up to 93% of the Cr from the waste. It is also of advantage, after blowing, to add stainless steel rejects to reduce the temperature of the metal. The use of O₂ in smelting structural and tool steels makes it possible to improve the dephosphorization

Card 1/2

of the metal by a short blow of the bath at the end of the

Oxygen Applications in Electric Steel Foundry

melt-down of the charge, addition of fluxes to the furnace, and slagging off; a reduction in the duration both of melt-down and of oxidation of the metal by 30 min and an accelerating the heating of the bath, with a 15% increase in the output of the furnace is thus achieved. The use of O₂ when these steels are made by the remelting process makes it possible to increase the amount of alloyed scrap in the charge and reduce the consumption of soft Fe, reduce burning loss of alloying elements, and make us of Cr-Si and Cr-Si-Mn steel scrap. It is emphasized that the quality of steel is never impaired by the use of O₂ but that it is oftentimes improved.

A.Sh.

1. Oxygen--Applications 2. Oxygen--Effectiveness 3. Electric furnaces--Operation

Card 2/2

TITLE: Book Review - by Speranskiy, V.G.

PERIODICAL: "Stal'"(Steel), 1957, No.5, pp. 423-424 (U.S.S.R.)

ABSTRACT: F.P. Yedneral "Electrometallurgy of steel and ferroalloys, (General Course)." (Elektrometallurgiya stali i ferrosplavov (obshchiy kurs), Metallurgizdat, Moscow, 1955, 510
pages. Except for the pointing out of a few errors or inaccuracies, which can be corrected in the next edition, the reviewer
considers that the book is extremely useful.

AVAILABLE:

Card 1/1

YEDNERAL, F.P

DUBROV, N.F., kand. tekhn. nauk; MIKHAYIOV, O.A., kand. tekhn. nauk;
FEL'DMAN, I.A.; DANILOV, A.M.; SCRCKIN, P.Ya., kand. tekhn. nauk,
starshiy nauchnyy sotruinik; BUTAKOV, D.K., kand. tekhn. nauk,
dots.; SOYFER, V.M.; IATASH, Yu.V., mladshiy nauchnyy sotrudnik;
ZAMOTAYEV, S.P.; BEYTEL'MAN, A. I.; SAPKO, A.I.; PETUKHOV, G.K.,
kand. tekhn. nauk; YEDNERAL, F.P., kand. tekhn. nauk, dots.;
IAPOTYSHKIN, N.M., kand. tekhn. nauk, starshiy nauchnyy sotrudnik;
ROZIN, R.M.; NOVIK, L.M., kand. tekhn. nauk, starshiy nauchnyy
sotrudnik; IAVRENT'YEV, B.A.; SHILYAYEV, B.A.; SHUTKIN, N.I.;
GNUCHEV, S.A., kand. tekhn. nauk, starshiy nauchnyy sotrudnik;
LYUDEMAN, K.F., doktor-inzh., prof.; GHUZIN, V.G., kand. tekhn.
nauk; BARIN, S.Ya.; POLYAKOV, A.Yu., kand. tekhn. nauk; FEDCHENKO,
A.I.; AGEYEV, P.Ya., prof., doktor; SAMARIN, A.M.; BOKSHITSKIY,
Ya.M., kand. tekhn. nauk; GARNYK, G.A., kand. tekhn. nauk;
MARKARYANTS, A.A., kand. tekhn. nauk; KRAMAROV, A.D., prof.,
doktor tekhn. nauk; TEDER, L.I.; DANILOV, P.M.

Discussions. Biul. TSNIICHM no.18/19:69-105 '57. (MIRA 11:4)

1. Direktor Ural'skogo instituta chernykh metallov (for Dubrov).
2. Direktor TSentral'nogo instituta informatsii chernoy metallurgii (for Mikhaylov). 3. Nachal'nik nauchno-issledovatel skogo otdela osobogo konstruktorskogo byuro tresta "Elektropech'" (for Fel'dman). 4. Nachal'nik martenovskoy laboratorii Zlatoustovskogo metallurgicheskogo zavoda (for Danilov, A.M.). 5. Iaboratoriya protsessov stalevareniya Instituta metallurgii Ural'skogo filiala AN SSSE (for Sorokin). (Continued on next card)

DUBROV, N.F .-- (continued) Card 2. 6. Ural'skiy politekhnicheskiy institut (for Butakov). 7. Starshiy inzhener Bryanskogo mashinostroitel nego zavoda (for Soyfer). 8. Institut elektrosvarki im. Patona AN URBS (for Latash). 9. Nachal'nik TSentral'noy zavodskoy laboratorii "Uralmashzavoda" (for Zamotayev). 10. Dnepropetrovskiy metallurgicheskiy institut (for Sapko). 11. Moskovskiy institut stali (for Yedneral). 12. TSentral!nyy nauchno-issledovatel skiy institut chernoy metallurgii (for Gmuchev, Lapotyshkin). 13. Starshiy master Leningradskogo zavođa im. Kirova (for Rozin). 14. Institut metallurgii im. Baykova AN SSSR (for Novik, Polyakov, Garnyk). 15. Nachal'nik tekhnicheskogo otdela zavoda "Bol'shevik" (for lavrent yev). 16. Starshiy inzhener tekhnicheskogo otdela Glavspetsstali Ministerstva chernoy metallurgii (for Shilyayev). 17. Zamestitel' nachal'nika tekhnicheskogo otdela zavoda "Elektrostal" (for Shutkin). 18. Freybergskaya gornaya akademiya, Germanskaya Demokraticheskaya Respublika (for Lyudeman). 19. Zaveduyushchiy laboratoriyey stal'nogo lit'va TSentral'nogo nauchno-issledovatel'skogo instituta tekhnologii i mashinostroyeniya (for Gruzin). 20. Starshiy master elektrostaleplavil'nykh pechey Uralvagonzavoda (for Barin). 21. Zamestitel' nachal'nika elektrostaleplavil'nogo tsekha zavoda "Sibelektrostal" (for Fedchenko). 22. Zaveduyushchiy kafedroy metallurgii stali i elektrometallurgii chernykh metallov Leningradskogo politekhnicheskogo instituta (for Ageyev). 23. Zamestitel direktora Instituta metallurgii im. Baykova AH SSSR, chlenkorrespondent AN SSSR (for Samarin). (Continued on next card)

DUBROV. N.F.---(contimued) Card 3.

24. Nachal'nik laboratorii TSentral'nogo nauchnc-issledovatel'skogo instituta chernoy metallurgii (for Bokshitskiy). 25. Zaveduyushchiy kafedroy elektrometallurgii Sibirskogo metallurgicheskogo instituta (for Kramarov). 26. Nachal'nik elektrostaleplavil'nogo tsekha Kuznetskogo metallurgicheskogo kombinata (for Teder). 27. Nachal'nik elektrometallurgicheskoy laboratorii Kuznetskogo metallurgicheskogo kombinata (for Danilov, P.M.).

(Steel--Metallurgy)

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EDNERAL,

133-1-11/24 AUTHORS: Ygdneral, F.P., Candidate of Technical Sciences, and

Khlystov, N.F., Engineer.

TITLE: Intensification of the Oxidising Period During Smelting Structural Steel in Electric Furnaces (Intensifikatsiya

okislitel'nogo perioda elektroplavki konstruktsionnoy stali)

Stal', 1958, No.1, pp. 43 - 48 (USSR). PERIODICAL:

The possibility of attaining the de-sulphurisation of ABSTRACT: metal during the melting period and an intensification of the oxidation period by blowing oxygen was investigated on a steel 45XHM (composition %: C 0.42-0.50; Mn 0.5-0.8; Si 0.17-0.37; Cr 0.8-1.1; Ni 1.3-1.8; Mo 0.2-0.3; V 0.1-0.2; P and S less or equal to 0.03). The initial experiments during which the technology of smelting was established were carried out in the Moscow Institute of Steel (Moskovskiy institut stali) on 1/2 ton electric furnaces. In 1956, 21 heats in a 20-ton electric arc furnace were carried out on the Zlatoust charge consisted of carbon steel scrap (about 67%), chromium-nickel-molybdenum steel waste (about 25%), pig (about 7%), nickel and coke (about 120 kg per 23 tons of the charge). order to obtain melting slag of a required basicity to dephosphorise during the melting period, about 2.5% of lime was charged towards the furnace walls. At the end of the melting

133-1-11/24

Intensification of the Oxidising Period During Smelting Structural Steel in Electric Furnaces

period when a small amount of unmelted material still remained, 0.5% of iron ore and 0.5% of lime was added and the bath was blown with oxygen for 5 minutes through an unlined iron tube. 6 m long, 3/4" diameter at a pressure of oxygen of 8 atm. The addition of ore was done in order to froth the slag and to prolong the service life of the tube. As a result of the 5 min. oxygen blow (40-50 m² of oxygen per heat) the content of phosphorus was reduced from 0.04-0.045% to 0.018-0.020%. The content of carbon after melting was 0.8-1.0% (on average 0.88%); the temperature of the metal 1 480 - 1 540 °C. After taking a sample of metal for the determination of oxygen, the first sample of slag and measuring the temperature of the bath with an immersion thermocouple, about 50-60% of slag was removed. After adding lime and fluorspar (about 1%) as well as calcium molybdate, the decarburisation process was carried out with oxygen blowing. This was done using lined tubes (3/4" dia.) at a pressure of 10 atm., in two stages. After the first 5 minutes of blowing, a sample for analysis was taken and then blowing continued for another 5-6 min. During blowing the electric current was cut off. When the required content of carbon was attained, silicon-manganese (2 kg/ton) was added and

133-1-11/24

Intensification of the Oxidising Period During Smelting Structural Steel in Electric Furnaces

after taking samples and measuring the temperature, the oxidising slag was removed. During the decarburisation process, a further decrease in the phosphorus content of metal to 0.011 -0.013% usually took place (Fig.1). The dependence of phosphorus content in the first sample of metal after melt out Fig. 2; variation in the degree of oxidation (% Fe total) of slags during the oxidising period in experimental heats - Fig. 3; the influence of the degree of oxidation of slag (oxidising period) on the de-phosphorisation - Fig.4; a comparison of the oxygen content of metal during the oxidising period in various heats with the equilibrium C-O curve - Fig. 5; changes in the manganese content during the oxidising period - Fig. 6.

Conclusions: 1) An addition of 3% of lime to the charge and a 5-minute blowing of the ladle with oxygen (about 600 m2/hr) at the end of the melting period lead to sufficiently complete de-phosphorisation. Slag basicity not lower than 2.2 and metal temperature of 1 500 °C are recommended. 2) A part of phosphorus is additionally removed during oxygen boiling; slag phorus is additionally removed during oxygen boiling; slag basicity during this period should be 2.6 - 3.0. 3) The velocity of decarburisation in a 20-ton furnace at a blowing Card3/4

133-1-11/24 Intensification of the Oxidising Period During Smelting Structural Steel in Electric Furnaces

rate of about 900 m³/hr (at 10 atm) and at an initial carbon content of 0.8-1% reaches about 3% C/hr. In order to attain the temperature of the metal of 1 610 °C at the end of oxidising period 0.5% of carbon should be oxidised at a rate of 0.05%/min. 4) The content of Fe total in slags after melting and at the end of oxidising period differs little. Increased content of re total corresponds to comparatively low temperatures. 5) After the preliminary partial deoxidation of metal with silicon-manganese, the content of oxygen in the metal remains higher than that corresponding to equilibrium with carbon. The manganese content remains at a high level (without ferro-manganese additions) which is determined by the high temperature of the process. 7) As a result of carrying out de-phosphorisation, together with melting and an intensification of the decarburisation process, the duration of the oxidising period was decreased in the experimental heats by 30%. Some additional shortening of the process can be obtained by speeding up the analysis of metal samples for carbon. There are 6 figures.

ASSOCIATION:

Moscow Institute of Steel (Moskovskiy institut stali)

Zlatoust

Metallurgical Works

AVAILABLE:

(Zlatoustovskiy metallurgicheskiy zavod)

Library of Congress

SOV/137-58-9-18625

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 66 (USSR)

AUTHORS: Yedneral, F.P., Kalinina, Z.M.

TITLE: Intensification of the Reducing Period in the Melting of Structural Steel in an Arc Furnace (Intensifikatsiya vosstanovitel'-

nogo perioda plavki konstruktsionnoy stali v dugovoy elektro-

pechi)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Chernaya metallurgiya, 1958,

Nr 2, pp 48-63

ABSTRACT: 21 experimental melts of 45KhNMFA steel were run in 20-t basic electric arc furnaces in accordance with a procedure in-

cluding blowing the bath with O₂ at the end of the oxidizing period; addition of 2 kg Si-Mn per ton metal after the blow and of 3/4 kg Mn-Si-Al or Si-Mn-Ca per t after the skimming of the Fe-Cr oxidizing slag, the alloys being in 4:1:0.5 and 1:1:0.5 ratio, plus slag formers in the amount of 3.5% of the weight of the metal; deoxidation of the slag by ground Si-Ca and coke

breeze; holding of the metal under the white slag for 40 min; introduction of 0.3-0.4 kg Al/t before tapping, and 0.7 kg Si-

Card 1/2 Ca/t in the ladle. The total length of the refining period was

moscow Steel Inst. and Italoustoosking metallungical Plant

SOV/137-58-9-18625

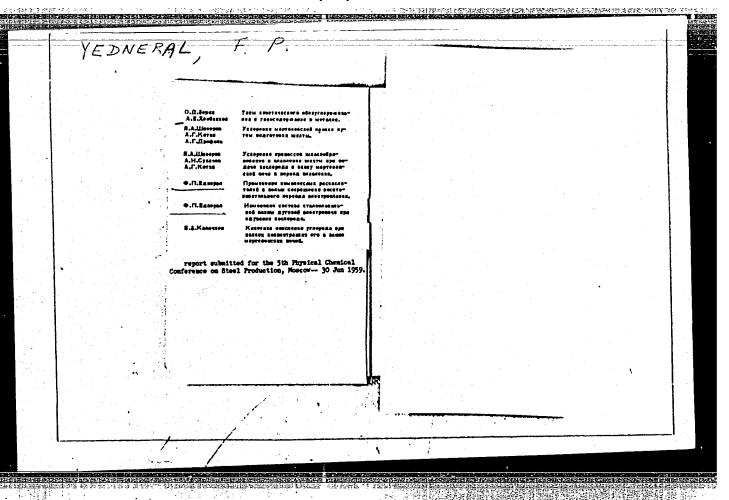
Intensification of the Reducing Period in the Melting (cont.)

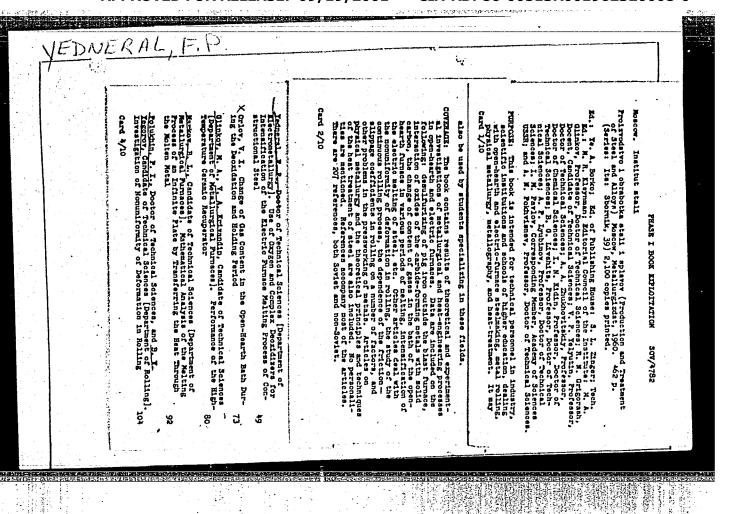
60-70 min. By sampling the slag and metal during the melt and by tests of the finished rolled product it was established that the O, N, and H contents before tapping were respectively 0.0042-0.0048%, 0.0094% and 4.9 cm³/100 g, while the final metal contained 0.012% S. The macroscopic structure and mechanical properties of the steel in these experimental heats was satisfactory, and seams were fewer than in steel melted the usual way, while contamination with nonmetallic inclusions was no higher than with the latter. The duration of the experimental heat was 17% shorter than the usual, consumption of electrical energy dropped 17%, and O2 consumption came to $10 \text{ m}^3/\text{t}$. Bibliography: 6 references.

A.Sh.

1. Steel--Melting 2. Furnaces--Applications 3. Industrial production -- Development

Card 2/2





"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001962320008-0

18(5)	SOV/148-59-1-7/19	
AUTHOR:	Yedneral, F.P., Doctor of Technical Sciences	
TITLE:	Intensification of the Smelting Process of Low-Carbon Structural Steel in a Charge of Alloy Wastes (Intensifikatsiya protsessa plavki malouglerodistoy konstruktsionnoy stali na shikhte iz legirovannykh otkhodov)	
PERIODICAL:	Izvestiya vysshikh uchebnykh zavedeniy - Chernaya metallurgiya, 1959, Nr 1, pp 59-70 (USSR)	
ABSTRACT:	To complete previous investigations and to develop a new tech- nology, experiments were carried out on the use of oxygen and complex deoxidizers (composition given) for the purpose of	
•	alloy wastes (composition: 6500), and capacity. The tests N1~2.45%) in electric furnaces of 20 ton capacity. The tests	
•	V.I. Travinin, R.Z. Shloman, S.M. Ralmanov, the plant); V.A. L.I. Khristoforova, and T.M. Bobkov (from the plant); V.A. Chernyakov, R.N. Lantsman, L.I. Pastukhov and V.I. Matchina Chernyakov, R.N. Lantsman, C.S. Stool. The experiments included	
Card 1/3	from the Moscow Institute of Steel. The composition of smelting, analyses of the exidation and reduction period of smelting,	

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control of the quality of metal and the composition of nonmetallic impurities. The tests are described in detail and results are compared with those obtained by conventional methods used at the plant. The tests proved that, in comparison with the usual technology, metal deoxidation was completed within 1 hour 10 minutes instead of 2 hours 20 minutes; the rate and completeness of desulfurization was higher; the nitrogen content was similar in both cases; a shorter reduction time caused reduced hydrogen concentration of the metal; macrostructures and breaks were satisfactory; purity was higher with respect to iridescence filaments; non-metallic impurities were fewer and the metal had a finer granulation. Longitudinal and transverse specimens, deoxidized with triple complex reducing agents, had higher mechanical properties than prescribed by GOST standards. Duration of oxidizing and reduction was reduced by 1 hour 27 minutes or 40%; the general smelting time by 18%; and the specific expense of electric power by 104 kw-hr/t or 15%. The method is recommended for practical use. The author presents graphs showing the content

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and distribution of oxygen, manganese, chromium and nitrogen during oxidation, deoxidation and smelting. The content of impurities and mechanical properties of the metal are given in tables.

There are 9 graphs, 5 tables and 7 references, 5 of which are Soviet and 2 English.

ASSOCIATION: Moskovskiy institut stali (Moscow Institute of Steel)

SUBMITTED: November 11, 1958

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s/133/60/000/011/010/023 A054/A029

Yedneral, F.P., Doctor of Technical Sciences Raising the Efficiency of Steel Melting in Arc Furnaces AUTHOR:

TITLE

A meeting was convened by the Komissiya po fiziko-khimicheskim os-Stal', 1960, No. 11, pp. 1,004 - 1,007 PERIODICAL:

novam proizvodstva stali (Committee of Physical Chemistry in Steel Melting) of the Institut metallurgii im. A.A. Baykova (Metallurgical Institute imeni A.A. Baykov) of the USSR Academy of Sciences which was attended by 97 delegates from metallurgical plants, research institutes, universities, etc. A total of 18 paners was read on the cubicat of relating the afficiency of steel malting in and pers was read on the subject of raising the efficiency of steel melting in arc furnaces. The President, Professor F.P. Yedneral, addressed the meeting and outlined the agenda. The following papers were read: A.M. Samarin, Corresponding Mamber of the MSGR Academy of Sciences. Regio problems of releins the effioutlined the agenda. The lollowing papers were read: A.M. Damarin, Corresponding Member of the USSR Academy of Sciences: Basic problems of raising the efficiency in electro-steel melting; V.K. Vorob'yev, Engineer; Raising the efficiency in the production of high-speed cutting statutes and other statutes and other statutes. ciency in the production of high-speed cutting, stainless and other steels by ciency in the production of high-speed cutting, Thionassiant of the moltane of using oxygen; V.S. Kudryavtsev, Engineer: Intensification of the melting of using oxygen; v.o. Addrygvobev, Engineer. Intensition of the merting of electro-steel by previous dephosphorization and by combining refining and melt-

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